DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

	A-684
	Revision 6
	Textron Aviation
18D	S18D
A18A	SA18A
A18D	SA18D
	November 27, 2017

TYPE CERTIFICATION DATA SHEET NO. A-684

This data sheet which is a part of Type Certificate No. A-684 prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder	Textron Aviation Inc. One Cessna Boulevard Wichita, KS 67215
Type Certificate Holder Record	Beech Aircraft Corporation transferred to Raytheon Aircraft Company on April 15, 1996 Raytheon Aircraft Company transferred to Hawker Beechcraft Corporation on March 26, 2007 Hawker Beechcraft Corporation transferred to Beechcraft Corporation on April 12, 2013 Beechcraft Corporation transferred to Textron Aviation Inc. on October 12, 2016

I. Model 18D, 11 PCLM, Approved June 15, 1938; Model S18D, 11 PCSM, Approved June 15, 1939

Engines	Two (2) Jacobs L-6, L-6M or L-6MB		
Fuel	80 min. octane aviation gasoline.		
Engine limits	Maximum continuous, (Sea level) 24.5 inHg, 2100 rpm (300 hp) (Straight line manifold pressure variation with altitude to 3700 ft.) 23.5 inHg, 2100 rpm (300 hp) Take-off (one minute), 26.0 inHg, 2200 rpm (330 hp)		
Airspeed limits	(Landplane)		
	(Serial Nos. 222, 225 and on)	Level flight or climb	211 mph True Ind.
		Glide or dive	253 mph True Ind.
		Flaps extended	117 mph True Ind.
	(Other Serial Nos.)	Level flight or climb	183 mph True Ind.
		Glide or dive	219 mph True Ind.
		Flaps extended	117 mph True Ind.
	(Seaplane)	Level flight or climb	170 mph True Ind.
		Glide or dive	207 mph True Ind.
		Flaps extended	117 mph True Ind.
Ceiling	(Landplane)	3800 ft. usable, in standard air at an indicated airspeed of 90 mph at 200 lbs. with either engine inoperative and the inoperative propeller idling in positive high pitch at 700 rpm.	
	(Seaplane)	0 ft. absolute, either engine inoperative.	
C.G. range	(Landplane)	(+2.5) to (+17.4)	
	(Seaplane)	(+2.5) to (+15.5)	

I. Model 18D, Model S18D (cont'd)

Maximum weight	(Landplane)	6700 lbs. or 7200 lbs. when equipped with heavy duty tires and appropriate stencil.
	(Seaplane)	7170 lbs.
No. seats	11 maximum (2 crew at -14). See Items 113 and 208 for location of passenger seats.	
Baggage	Maximum capacity 1100 lbs.	
	Fwd. compt.	600 lbs. (-74) or 300 lbs. (-85) with Item 205(a).
	Rear compt.	300 lbs. (+141)
	Nacelle compts. (Item 222)	100 lbs. each (+27)
Fuel capacity	160 gals. (Two wing tanks, 80 gals. each) (+24)	
Oil capacity	16 gals. (8 gal. tank in each nacelle at 4 1/2 gals.) (-30) See Item 210 for optional tanks.	
Control surface movements	Not available	
Serial Nos. eligible	62 and on (See NOTE 3 showing modifications made to Serial Nos. 222, 225 and on).	
Required equipment	(Landplane)	Items 101, 102, 103, 104, 105, 106, (107 and 108 required only with battery ignition engines), 109, 110(a)(b), 111(a), 112, 113, 114(a)(b).
	(Seaplane)	Items 101, 104, 106, (107 and 108 required only with battery ignition engines), 109, 110(a)(b), 111, 112, 113, 151, 152.

II. Model A18D, 11 PCLM and Model SA18D, 11 PCSM, Approved May 7, 1940

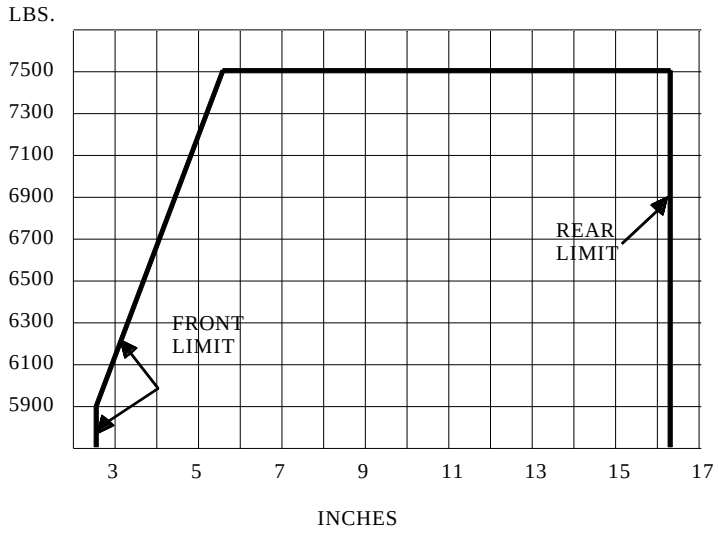
Model A18D same as Model 18S, TC 710, except engine installations and wing skin thickness.

Engines	Two (2) Jacobs L-6, L-6M or L-6MB	
Fuel	80 min. octane aviation gasoline.	
Engine limits	Maximum continuous, (Sea level) 24.5 inHg, 2100 rpm (300 hp) (Straight line manifold pressure variation with altitude to 3700 ft.) 23.5 inHg, 2100 rpm (300 hp) Take-off (one minute), 26.0 inHg, 2200 rpm (330 hp)	
Airspeed limits	(Landplane)	
	Level flight or climb	211 mph True Ind.
	Glide or dive	253 mph True Ind.
	Flaps extended	117 mph True Ind.
	(Seaplane)	
	Level flight or climb	170 mph True Ind.
	Glide or dive	207 mph True Ind.
	Flaps extended	117 mph True Ind.
Ceiling	0 ft. absolute, either engine inoperative.	

II. Model A18D, Model SA18D (cont'd)

C.G. range

(Landplane) (+5.6) to (+16.3) at 7500 lbs.
(+2.5) to (+16.3) at 5900 lbs. or less
Straight line variation between points given.



(Seaplane) (+2.5) to (+15.5)

Maximum weight

(Landplane) 6700 lbs. or
7500 lbs. when equipped with heavy duty tires and appropriate stencil.
(Seaplane) 7170 lbs.

No. seats

11 maximum (2 crew at -14). See Items 113 and 208 for location of passenger seats.

Baggage

Maximum capacity	1100 lbs.
Fwd. compt.	600 lbs. (-74) or 300 lbs. (-85) with Item 205(a).
Rear compt.	300 lbs. (+141)
Nacelle comps. (Item 222)	100 lbs. each (+27)

Fuel capacity

160 gals. (Two wing tanks, 80 gals. each) (+24)

Oil capacity

16 gals. (8 gal. tank in each nacelle at 4 1/2 gals.) (-30)
See Item 210 for optional tanks.

Control surface movements

Not available

Serial Nos. eligible

222, 225 and on (See NOTE 3 showing modifications made)

Required equipment

(Landplane) Items 102, 103, 104, 105, 106, (107 and 108 required only with battery ignition), 109, 110(a)(b), 111(a), 112, 113, 114(b), 201, 225.
(Seaplane) Items 104, 106, (107 and 108 required only with battery ignition engines), 109, 110(a)(b), 111, 112, 113, 151 152, 201, 225.

III. Model A18A, 11 PCLM, and Model SA18A, 11 PCSM, Approved May 7, 1940

Model A18A same as Model 18S, TC 710, except engine installations and wing skin thickness.

Engines

Two (2) Wrights R-760E-2 (-48.5)

Fuel

80 min. octane aviation gasoline.

III. Model A18A, Model SA18A (cont'd)

Engine limits	Maximum continuous, 2200 rpm (320 hp) Take-off (one minute), 2400 rpm (350 hp)	
Airspeed limits	(Landplane)	
	Level flight or climb	211 mph True Ind.
	Glide or dive	253 mph True Ind.
	Flaps extended	117 mph True Ind.
	(Seaplane)	
	Level flight or climb	170 mph True Ind.
	Glide or dive	207 mph True Ind.
	Flaps extended	117 mph True Ind.
Ceiling	(Landplane)	3100 ft. usable, in standard air at an indicated airspeed of 95 mph at 7500 lbs. with either engine inoperative and the inoperative engine at maximum continuous power. (Leading edge deicers installed but not operating.)
	(Seaplane)	0 ft. absolute, either engine inoperative.
C.G. range	(Landplane) (+5.6) to (+16.3) at 7500 lbs. (+2.5) to (+16.3) at 5900 lbs. or less Straight line variation between points given. For figure see Section II. (Seaplane) (+2.5) to (+15.5)	
Maximum weight	(Landplane)	6700 lbs. or 7500 lbs. when equipped with heavy duty tires and appropriate stencil.
	(Seaplane)	7170 lbs.
No. seats	11 maximum (2 crew at -14). See Items 113 and 208 for location of passenger seats.	
Baggage	Maximum capacity 1100 lbs.	
	Fwd. compt.	600 lbs. (-74) or 300 lbs. (-85) with Item 205(a)
	Rear compt.	300 lbs. (+141)
	Nacelle compts. (Item 222)	100 lbs. each (+27)
Fuel capacity	160 gals. (Two wing tanks, 80 gals. each) (+24)	
Oil capacity	16 gals. (8 gal. tank in each nacelle at 4 1/2 gals.) (-32) See Item 210 for optional tanks.	
Control surface movements	Not available	
Serial Nos. eligible	222, 225 and on (See NOTE 3 showing modifications made)	
Required equipment	(Landplane)	Items 102, 103, 104, 105, 106, 109, 110(a)(b), 111(b), 112, 113, 114(b), 201, 225.
	(Seaplane)	Items 104, 106, 109, 110(a)(b), 111, 113, 151, 152, 201, 225.

Data Specifications Pertinent to All Models

Datum	Centerline of the wing main beam at the fuselage.
Leveling means	Not available.
Certification Basis	Type Certificate No. 684 (Aero. Bulletin 7A)
Production Basis	None. Prior to original certification of each aircraft manufactured subsequent to August 7, 1945, a CAA representative mus perform a detailed inspection for workmanship, materials, and conformity with the approved technical data, and a check of the flight characteristics.
Export eligibility	Eligible for export to all countries subject to the provisions of ASR 312 (MOP 2-4 contains same information) except as follows: (a) Canada: Landplane and seaplane - eligible Skiplane - not eligible. However, structure complies with Canadian requirements for ski installation when Item 219 is installed, with tread of 155 in. and pedestal height of 13 in., and distances from ski bottom to V-Brace attachment, with gear in half-deflected position, as follows: Distance 48.5 in., Maximum weight 6700 lbs. 37.3 in., Maximum weight 7200 lbs.
Equipment	A plus (+) or minus (-) sign preceding the weight of an item indicates net weight change when that item is installed.

			18D, S18D A18D, SA18D	A18A SA18A
Propellers and Propeller Accessories (Except De-Icing Equipment)				
111.	Two propellers - controllable metal	108 lbs. ea.		
	(a) Ham. Std. hubs 2B20, blades 6135A-9 or -10 Dia.: 8'3-1/8" max., 8'7/8" min. Low pitch settings: 15°, high 16°, 11°, high 13° (With Item 201) measured at the 42-inch station.		(-66)	-----
	(b) Ham. Std. hubs 2B20, blades 6135A-12 or -13 Dia.: 8'1/8" max., 7'9-7/8" min. Low pitch settings: 15.5°, high 16.5°. 11.5°, high 13.5° (With Item 201) measured at the 42-inch station.		-----	(-68)
201.	Two constant speed governors	10 lbs. ea.	(-36)	(-63)
Engines and Engine Accessories - Fuel and Oil Systems				
101.	Two engine ring cowls	50 lbs.	(-52)	(-52)
104.	Two oil radiators (Harrison 3074510)	20 lbs.	(-61)	(-61)
110.	Fuel pumps			
	(a) Wobble (Type D-2)	4 lbs.	(-22)	(-22)
	(b) Two engine-driven (Pesco R-400-BC)	3 lbs. ea.	(-37)	(-35)
112.	Two carburetor heaters	5 lbs. ea.	(-42)	(-40)
205.	Fuel tanks			
	(a) 50 gal. (One tank in nose of fuselage) When this item is installed: (1)Forward baggage is 300 lbs. maximum (-85) (2) Placard as follows (unless otherwise substantiated): At main fuel valve, "Use Nose Tank First." At nose filler cap, "Fill Main Wing Tanks First."	32 lbs.	(-64)	(-64)
	(b) Two 25 gal. wing tanks, rear	30 lbs.	(+53)	(+53)

Specifications Pertinent to All Models (cont'd)

			18D, S18D A18D, SA18D	A18A SA18A
Engines and Engine Accessories - Fuel and Oil Systems (cont'd)				
209.	Vacuum pumps (a) Pesco	5 lbs. ea.	(-36)	(-34)
	(b) Romec	5 lbs. ea.	(-36)	(-34)
	(c) Adapter, 3-way	8 lbs. ea.	(-36)	-----
	(d) Adapter, 2-way	5 lbs. ea.	(-36)	-----
210.	Oil tanks			
	(a) 10 gal. (5 gal. tank in each nacelle)	4 1/2 lbs. ea.	(-30)	(-32)
	(b) 17 gal. (8 1/2 gal. tank in each nacelle)	8 lbs. ea.	(-10)	(-10)
	(c) 13 gal. (6 1/2 gal. tank in each nacelle)		(-30)	(-32)
214.	Mixture analyzer			
	(a) Indicator	2 lbs.	(-42)	(-42)
	(b) Cells and tubing (Cambridge) - two required	5 lbs. ea.	(-11)	(-11)
	(c) Cells and tubing (Breeze) - two required	8 lbs. ea.	(-11)	(-11)
217.	Two starters (Eclipse E80)	40 lbs.	(-38)	(-38)
225.	Two engine ring cowls (with flaps)	47 lbs. ea.	(-44)	(-49)
226.	Two oil radiators (Harrison 3074510)	10 lbs. ea.	(-25)	(-25)
301.	Two 78 gal. fuel tanks (Replacing std. 80 gal. tanks)		No weight change	
Landing Gear and Floats				
102.	5 in. wheels (Goodyear 5HBM) and 29x13-5 H.D. tires (For weights above 7200 lbs. stencil on landing gear fork must state, "Use Heavy Duty Tires Only".)	122 lbs.	(- 9)	(- 9)
103.	12x5-3 tail wheel with H.D. tire (Wheel must be placarded for H.D. tire)	9 lbs.	(+261)	(+261)
114.	Shock absorbers			
	(a) Dwg. 188400 (less wheel, brake and tire)	79 lbs. ea.	(-12)	(-12)
	(b) Dwg. 188400A (less wheel, brake and tire)	86 lbs. ea.	(-12)	(-12)
151.	Edo model 55-7170 floats with water rudders (Dwg. No. 55-S-007); auxiliary seaplane fin (Dwg. No. S-186221) (For all airplanes of serial No. 178 or under, seaplane center section spar, Dwg. No. S-18422 Rev. B or 18110 Rev. E, is also required.)			
211.	Dual brake installation (Dwg. No. 187480)	4 lbs.	(-44)	(-44)
219.	Skiplane landing gear (Dwgs. 18800K or 188000K, 18110 Rev. C; shock struts 7466 or 188400K)			
232.	5 in. wheels, (Goodyear A5HBM-10)	+10 lbs.	(- 9)	(- 9)
Electrical Equipment				
105.	Two landing gear operating motors (Dumore D-5)	18 lbs.	(-12)	(-12)
106.	Wing flap operating motor (Dumore 3549)	8 lbs.	(-12)	(-12)
107.	Two generators - 15 amp. (Eclipse)	30 lbs.	(-38)	(-34)
108.	Two batteries (Exide 6TS-13-1)	72 lbs.	(-18)	(-18)
109.	Bonding and shielding	30 lbs.	(-58)	(-46)
203.	Generators (a) 25 amp. (Eclipse)	20 lbs.	(-38)	(-34)
	(b) 50 amp. (Eclipse)	32 lbs.	(-38)	(-34)

Specifications Pertinent to All Models (cont'd)

Electrical Equipment (cont'd)				
206.	Battery (In right and/or left wing leading edge near fuselage (-18) or aft main spar in cabin (+7))			
	(a) Reading 6-ARL-11	46 lbs. ea.		
	(b) Reading 6-ARL-9	56 lbs. ea.		
	(c) Exide 6XT-13	64 lbs. ea.		
	(d) Exide 6-TS-7-1	26 lbs. ea.		
218.	Two landing lights (Grimes ST-1000 or ST-1220)	10 lbs.	(+36)	(+36)
220.	Landing gear motor, Elec. Spec. HCA (modified)	14 lbs.	(-15)	(-15)
221.	Wing flap motor, Dumore 4289 (modified)	5 lbs.	(- 8)	(- 8)
			18D, S18D A18D, SA18D	A18A SA18A
Interior Equipment				
113.	Four standard or parachute passenger seats with safety belts (Dwg. 18051-1)	17 lbs. ea.	(+37, +86) or (+34, +45, +79, +92)	
202.	Flares (Wiley A-8)	36 lbs.	(-52) or	(+160)
208.	Seats (Dwg. 18051, Arrangements (2) to (7)) Number and location will be shown on weight and balance report.			
	(2) 6 seats (+22, +54, +86)	17 lbs. ea.		
	(3) 6 seats (locations and weights as in (2)) with 1 extra chair (18 lbs. at +115))			
	(4) 6 seats (+22, +54, +86, +25, +59, +92)	17 lbs. ea.		
	(5) 6 seats (locations and weights as in (2)) with 2 folding chairs (7 lbs. ea. at +118)			
	(6) 3 place couch (39 lbs. with safety belts, at +41) (left side) (+15, +41, +67), with from 1 to 5 seats at any of the following locations: (+22, +25, +54, +59, +86, +92, +115, +118)			
	(7) 2, 3 or 4 place couch (40 lbs., with safety belts as required) (left side) (+12, +32, +52, +72) with from 1 to 5 seats at any of the following locations: (+22, +25, +45, +54, +59, +86, +92, +113, +115, +118)			
212.	Toilet Equipment	7 lbs.	(+106) or	(+140)
216.	Parachutes (Back pack 24 ft. will fit std. seat)	15 lbs. ea.		
223.	Two cabin heaters	10 lbs. ea.	(-16)	(-16)
224.	Camera installation equipment (Dwg. I18045)			
	(a) Operator's seat	17 lbs.	(+45)	(+45)
	(b) Camera and supports (Maximum weight)	97 lbs.	(+13)	(+13)
	(c) Structural revisions	14 lbs.	(0)	(0)
228.	Heating system converted to ventilating system (Dwg. I183950)	-16 lbs.	(-20)	(-20)
230.	Mail compartment installation	8 lbs.	(+17)	(+17)
231.	Photographic version (Models A18A and A18D only)			
	(a) Fuselage alteration - includes camera wells in roof, floor, and door, and rerouted control cables (Dwgs. 184000P and 187000P)		No weight change	
	(b) Camera installation	352 lbs.	(+ 66)	(+ 66)
	(c) Photographer's chair and safety belt	20 lbs.	(+100)	(+100)

Specifications Pertinent to All Models (cont'd)

Deicing Equipment

213.	Deicer installation (Model A18A only)			
	A. Surface (Maximum weight may be increased for complete installation.)	45 lbs.		
	(a) 2 wing boots (removable)	14 lbs. ea.	-----	(+12)
	(b) 2 stabilizer boots (removable)	4 lbs. ea.	-----	(+244)
	(c) Valves, pumps, lines, etc. (fixed)	47 lbs.	-----	(0)
	B. Propeller anti-icer			
	(a) Anti-icer fluid tanks, pump and lines	11 lbs.	-----	(-10)
	(b) Anti-icer fluid	20 lbs.	-----	(- 5)

Miscellaneous (not listed above)

152.	Replacement - "V" Brace Seaplane Dwg. No. S-18811			
222.	Nacelle baggage compartments; seaplane, skiplane or fixed landing gear only (Dwg. No. I18024)			
229.	Twin venturi installation (Dwg. 18439)	2 lbs.	(-38)	(-38)

NOTE 1. Current weight and balance report including list of equipment included in certificated weight empty, and loading instructions when necessary, must be in each aircraft at the time of original certification and at all times thereafter (except in the case of air carrier operators having an approved weight control system).

NOTE 2. The following placards are required at the locations noted:

(a) When auxiliary 50 gal. fuel tank, Item 205(a), is installed:
(1) Forward baggage is 300 lbs. maximum (-85).
(2) Placard as follows (unless otherwise substantiated):
At main fuel valve, "Use Nose Tank First."
At nose filler cap, "Fill Main Wing Tanks First."
(b) Placard lavatory door as follows: "This room not to be occupied during take-off and landing."
(c) Placard fuel tank filler cap as follows: "80 octane minimum."
(d) For weights above 7200 lbs., wheels must be placarded for heavy duty tires.

NOTE 3. Serial Nos. 222, 225 and on, incorporate revised engine nacelles, cowling, tail surfaces and control system, and minor structural changes.

---- END ----